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UNDER THE CHARGE OF

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Bence-Jones Proteinuria in Conditions Other Than Myelomatosis.—Boggs and Guthrie (*Johns Hopkins Hosp. Bull.*, 1912, xxiii, 353) have found in the literature instances of Bence-Jones proteinuria in conditions other than myelomatosis. These included a case of osteomalacia, 1 of gun-shot wound of the leg, and 3 cases of lymphatic leukemia. The only instance of metastatic bone carcinoma was a case of gastric tumor reported by Oevum. The authors report an instance in a woman with primary carcinoma of the breast and metastatic dissemination in skull, ribs, both trochanters, both ilia, and right tibia. They are struck with the fact that all the cases have one point in common—the more or less extensive involvement of the bone marrow. It is also obvious that the relation of multiple myeloma to Bence-Jones proteinuria cannot be specific. Other disease processes involving the marrow may lead to the excretion of this unusual body. The excretion of the protein seems also to bear no fixed relation to the extent or duration of the disease process, as it may occur in the urine before any demonstrable bone lesions may occur, and may disappear at a time when the lesions in the marrow are most extensive. Again, very widespread involvement of the bone marrow may occur unassociated with this type of proteinuria.

The Mechanism of the Tuberculin Reaction.—F. Meyer and K. E. F. Schmitz (*Deutsch. med. Woch.*, 1912, xxxviii, 1963) report an experimental study of the tuberculin reaction. They infected four rabbits with bovine tubercle bacilli (Perlsuchtbacillen). At varying intervals after the infection became well established, they withdrew blood from the ear vein. Whole blood, serum, and washed corpuscles were then incubated for a short time with bovine tuberculin (Perlsucht-tuberkulin), and the mixtures, often after standing twenty-four hours in the ice chest, were injected into normal rabbits. Tuberculous serum plus tuberculin, with or without the addition of complement, may produce a febrile reaction when injected into a normal animal. The reaction is more marked when whole blood or washed corpuscles from a tuberculous animals is incubated with tuberculin and then injected intravenously into normal rabbits. Fever, dyspnea, prostration, and sudden lowering of the temperature may follow. As controls, the blood and corpuscles of normal rabbits incubated with and without tuberculin, and tuberculous blood and corpuscles incubated without tuberculin were used. Only minimal rises of temperature were observed which subsided rapidly. It was shown that the toxic substance which is formed during incubation of washed corpuscles and tuberculin may pass into the salt solution in which the corpuscles are suspended.

The Origin and Significance of Basophilic Granules in the Erythrocytes.—M. GEORGOPULOS (*Wien. klin. Woch.*, 1912, xxv, 1704) has made observations on changes in the blood following splenectomy which tend to show that basophilic granules in the erythrocytes are derived from the nucleus and are, therefore, indicative of regeneration of the blood. Two days after removal of the spleen, with red cells, 2,350,000, and hemoglobin, 44 per cent., normoblasts became very numerous in the patient's blood. Evenly distributed in the cytoplasm were numerous granules which were stained a blackish blue with Giemsa's stain. The cytoplasm of these normoblasts was orthochromatic. The granules were found only in the normoblasts—none were observed in non-nucleated cells. This fact the author points out, suggests very strongly a nuclear origin of the granules. Since the basophilic granules were present only in young cells in this instance, it is unlikely that they represent degenerative changes.

Lordotic Albuminuria and the Acidity of the Urine.—E. FRAENKEL (*Deutsch. med. Woch.*, 1912, xxviii, 1974) has examined the relationship between lordotic albuminuria and urinary acidity as determined by titration with tenth normal sodium hydrate, using phenolphthalein as indicator. In some cases the albuminuria was induced by having the patients assume the lordotic posture in a chair for fifteen minutes. In many of the children, an increase in urinary acidity occurred with the appearance of albumin in the urine or with the augmentation of a preëxisting albuminuria brought on by the lordotic position; in others, the acidity rose several hours after the albumin appeared. It was possible to suppress the albuminuria by previous administration of sodium bicarbonate, thus supporting Fisher's views. However, in a child whose condition corresponded to lordotic albuminuria following scarlatinal nephritis, as well as in scarlatinal nephritis itself, the administration of alkali was without effect.

Insect Transmission of the Virus of Poliomyelitis.—HOWARD and CLARK (*Jour. Exper. Med.*, 1912, xvi, 850) have experimented with the house fly, certain types of mosquitoes, the bedbug, and head and body lice, with reference to their ability to carry the poliomyelitic virus. The insects were allowed to feed directly on infected cord or upon materials containing a suspension of infected cord. They were then killed at varying intervals and used whole, or in part, for the preparation of bacteria-free Berkefield filtrates, which were inoculated into monkeys. Biting insects were made to feed upon monkeys inoculated with poliomyelitic virus and their bodies used in turn for inoculation. The experiments allow these deductions: The domestic fly may become contaminated with the virus which it may obtain in nature from infected discharges from the nose and throat or intestine. The virus can be transported in a living state on the surface of their bodies for two or more days, and within the esophagus and stomach for at least several hours. The virus may be deposited at a considerable distance from the point of contamination. The flies may die, and the disintegration of their bodies may liberate surviving virus in dust. Through such a passive contaminator as the house fly, the bodies may easily be taken into the bodies of human beings. At least two species of mosquitoes are excluded. The pediculi also seem incapable of taking virus out of the blood, or maintaining it in a living state within their bodies. In one of the sixteen experiments with bedbugs, it was shown possible for a blood-sucking insect both to obtain living virus from the blood and maintain it in a living state for at least seven days.

The Bacteriology and Chemistry of the Bile in Vivo, Together with a Method for the Early Diagnosis of Typhoid Fever.—G. Kiralyfi (*Berlin. klin. Woch.*, 1912, xlix, 1985) has made bacteriological and chemical studies of the bile, with particular reference to affections of the gall-bladder. His method is practically the same as that used by Petry (1911) in an examination of the microscopic elements of the bile. The patient is given Boldyreff's oil breakfast consisting of 250 c.c. to 300 c.c. of olive oil; the stomach is, however, first washed with sterile water through a sterile tube, after which the oil is introduced through the tube. After one-half hour, the stomach contents are removed with a sterile tube. The patient is instructed to expectorate all sputum and saliva during the half hour the oil remains in the stomach; in fact, it is essential that nothing be swallowed. The stomach contents are received into a sterile dish. In a few minutes the oil separates above the bile-stained fluid, which has entered the stomach. By means of a sterile pipette, some of the fluid is transferred to tubes of agar and bouillon. The remainder of the bile-stained fluid is used for microscopic and chemical examination. The main object of the study was the bacteriology of the bile in cholecystitis. For purposes of orientation, various diseases were included. In all, 69 patients were examined. In 39 instances, the bile-stained fluid was sterile, showing that the technique employed was successful in preventing the entrance of mouth organisms. In 7 of 8 cases of cholecystitis, the author obtained positive results; the colon bacillus was found four times, the streptococcus once, and staphylococci twice. The sterile fluid was obtained from a patient whose clinical symptoms were mild. In cholelithiasis, the bile was usually sterile. This result Kiralyfi believes was due in part to mechanical interference with the flow of bile from the gall-bladder, in part to the fact that in a certain percentage of cases gallstones are independent of bacterial invasion. In subacidity and anacidity, the gastric flora may interfere with the bacteriological examination of the bile; this difficulty is not encountered in hyperacidity or normal acidity. In 3 cases of typhoid fever, pure cultures of the Bacillus typhosus were obtained from the bile. This result was especially important, for in 2 of the patients cultures of the blood and feces were negative, and the Widal reaction also remained negative. Normal bile contains no albumin. In testing for albumin, material remaining in the stomach was excluded by the lavage, and, as a further check, the wash water was tested. The sulfosalicylic acid test was used for albumin. A positive reaction was obtained in all of the cases of cholecystitis in which bacteria were found; the two conditions run parallel. A trace of albumin (mucin, etc.) is to be disregarded. In cases where there is a strongly marked reaction for albumin with negative culture, the possibility of a latent or masked cholecystitis without symptoms must be considered. Microscopic examination of the bile is not of great value. One or two pus cells are without significance. It is only when the cells are abundant that their presence points to an inflammatory exudate. The albumin may be increased regardless of the number of pus cells.

Alimentary Galactosuria in Liver Disease.—E. Reiss and W. Jehn (*Deutsch. Archiv f. klin. Med.*, 1912, cviii, 187) find that galactose is superior to levulose in some respects as a measure of hepatic function. Galactose was first used in hepatic diagnosis by Bauer in 1908. The authors have administered 40 grams of galactose in the morning on a fasting stomach, as Bauer did, after the patient has voided urine. The sugar is best taken in a carbonated water. An hour after taking the galactose, the patient may have his breakfast. (If the patient has diarrhea or is vomiting, the test should be delayed; the authors have never seen either of these symptoms as a sequel of giving the sugar.) The urine is collected for twelve hours, in two six-hour periods. The greater part of the sugar—usually all—is eliminated in the first six hours. After twelve hours, none is excreted. The urine is tested qualitatively with Nylander's and Trommer's tests, quantitatively with the polariscope or by titration. In normal individuals and in those in whom liver disease could be excluded, 1.5 gram at most was recovered—usually none, though it must be added that one neurasthenic excreted 2.5 gram. The authors consider amounts pathological only when they exceed 2 grams. The authors have employed the test in more than 100 patients with liver disease and have found, as did Bauer, that alimentary galactosuria is unusual in many diseases of the liver. Thus, in cholelithiasis it was usually found that galactose was excreted in normal amounts. Obstruction of the bile passages by tumors never led to galactosuria. Luetic icterus (secondary stage) gave negative results in 3 cases, moderate galactosuria (2 to 4 grams) in 2 cases. Of 8 cases of chronic passive congestion, only 1 showed a moderate galactosuria. Fifteen cases of cirrhosis of the liver were studied. In the majority the tolerance for galactose was normal; in only 3 cases was a moderate galactosuria found. Among 17 cases of catarrhal jaundice, only 1 very mild case failed to show galactosuria.

The galactose was usually excreted in moderate or large amounts, as much as 36 per cent. of the quantity given being recovered. Of other conditions, only 1 case of croupous pneumonia showed galactosuria, other cases of this disease being negative. Thus, a normal tolerance for galactose speaks against catarrhal jaundice alone; it may be found in all other hepatic conditions. (The authors have had no opportunity to study acute yellow atrophy and phosphorus poisoning, but believe a galactosuria will be found in these conditions.) Similarly, in the absence of febrile disease, marked galactosuria indicates catarrhal jaundice, or possibly one of the two conditions mentioned above. Moderate galactosuria may occur in most diseases of the liver. It is lacking in cancer and is rare with cholelithiasis and chronic passive congestion.

Carcinoma Skin Reaction.—The relation of the skin reaction for carcinoma proposed by Elsberg, Neuhof, and Geist to the isohemolysin classification (Moss) has been shown not to be a matter of indifference. There appears to be one group, Group IV (the corpuscles of which are neither agglutinated nor hemolyzed by any serum in vitro) which might be utilized for the reaction with reasonable reliability, since when these corpuscles have been hemolyzed, hemolysis of those of the other three groups has always occurred. This fact demonstrated by Gorham and Lisser has led LISSER and BLOOMFIELD (*Johns Hopkins Hosp. Bull.*, 1912, xxiii, 356) to test a series of cases, making use of only the corpuscles of Group IV. They studied 62 verified cases of carcinoma and sarcoma and 94 cases of healthy individuals or patients suffering from non-malignant aliments. Two-thirds of the malignant cases gave a positive reaction. In the control cases 91.6 per cent. were negative. They concluded that a negative skin reaction adds little or no weight to the evidence against cancer. But a positive reaction is strong presumptive evidence of cancer. They believe the corpuscles of Group IV must be used to give reliable results.

Nitrogen Retention in the Blood in Experimental Acute Nephritis.—FOLIN, KARSNER, and DENIS (*Jour. Exper. Med.*, 1912, xvi, 789) following the development of colorimetric methods of nitrogen determinations in the blood, studied the possible nitrogen retention in experimentally produced nephritis. The types of nephritis selected were those produced by uranium nitrate, by potassium chromate, and by cantharidin. In the uranium nephritis, which involves both tubules and glomeruli, the former more markedly than the latter, a marked accumulation of nitrogen occurs in the blood. Chromate nephritis, involving tubules almost exclusively, results in only moderate nitrogen retention. Cantharidin causes a nephritis of both tubules and glomeruli, especially the latter, and in this type there is produced a marked early and persisting accumulation of nitrogen. It must be noticed that the glomerulus is distinctly involved in the two forms where accumulation of nitrogen in the blood is most marked, a condition indicating that although almost pure tubular involvement produces only moderate accumulation, the additional involvement of the glomerulus is extremely important in leading to a retention of nitrogenous waste products.